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EXAMINER
DAYE, CHELCIE L

ART UNIT	PAPER NUMBER
2161	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/721,602	GOYAL, PAWAN
	Examiner	Art Unit	
	Chelcie Daye	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This action is issued in response to applicant's amendment filed July 31, 2006.

2.   Claims 1-7 and 9-30 are presented. Claim 8 is cancelled and no claims added.

3.   Claims 1-7 and 9-30 are pending.

4.   Applicant's arguments filed July 31, 2006, have been fully considered but they are not persuasive.

Claim Objections

5.   The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Corrections are needed in the instant application. The claims as presented by the applicant are claim numbers 24 and 26; therefore claim number 25 is missing. Appropriate corrections needed.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-24 and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yanai (US Patent No. 6,502,205) filed November 10, 2000, in

view of Shomler (US Patent No. 5,623,599) filed July 29, 1994.

Regarding Claim 1, Yanai discloses a method for asynchronously

remotely copying database content changes from a primary site to a remote site,

the method comprising:

associating a sequential identification with each respective log record write

and each corresponding data record write received at the primary site, each data

record write containing modifications to a page of the database and each log

record write containing information relating to modifications to the page of the

database for a corresponding data record write (column 32, lines 34-58 and

column 33, lines 7-10, Yanai). However, Yanai is silent with respect to

asynchronously remotely copying each respective log record write from the

primary site to the remote site; receiving an acknowledgement at the primary site,

the acknowledgement corresponding to a log record write that has been

completed at the remote site; and asynchronously remotely copying each data

record write having a sequential identification that is prior to or equal to the

sequential identification of the log record write corresponding to the received

acknowledgement. On the other hand, Shomler discloses asynchronously

remotely copying each respective log record write from the primary site to the

remote site (column 4, lines 10-17, Shomler); receiving an acknowledgement at

the primary site, the acknowledgement corresponding to a log record write that has been completed at the remote site (column 9, lines 33-39, Shomler); and asynchronously remotely copying each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement (column 10, lines 34-45, Shomler). Yanai and Shomler are analogous art because they are from the same field of endeavor of maintaining a copy of data stored at a remote location from the primary data storage device. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Shomler's teachings into the Yanai system. A skilled artisan would have been motivated to combine as suggested by Shomler at column 3, lines 9-14, in order to secure transactions at a remote site without interrupting the flow of other transactions in the system. Therefore, such a system should be simple to implement, efficient and non-disruptive to existing asynchronous copy systems.

Regarding Claims 2 and 8, the combination of Yanai in view of Shomler, disclose the method wherein the sequential identification is a monotonically increasing identification number (column 11, lines 38-46, Shomler).

Regarding Claims 3 and 9, the combination of Yanai in view of Shomler, disclose the method wherein the sequential identification is a monotonically increasing time-stamp identification (column 7, lines 43-60, Shomler).

Regarding Claim 4, the combination of Yanai in view of Shomler, disclose

the method wherein a log record write is asynchronously remotely copied from

the primary site to the remote site before a data record write is asynchronously

remotely copied from the primary site to the remote site (column 10, lines 43-67,

Yanai).

Regarding Claim 5, the combination of Yanai in view of Shomler, disclose

the method wherein each log record write is a log block (column 9, lines 26-32,

Shomler)[1] and each data record write is a data block write (column 9, lines 18-20,

Shomler)[2].

Regarding Claim 6, the combination of Yanai in view of Shomler, disclose

the method further comprising:

asynchronously receiving a log record write at the remote site (column 4,

lines 10-17, Shomler);

storing the received log record write at the remote site (column 10, lines

43-58, Yanai);

sending an acknowledgement from the remote site to the primary site

when the received log record write is complete (column 10, lines 1-8, Shomler);

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[1] Examiner Notes: A token is a primitive block of structured text, which therefore corresponds with the log block.
[2] Examiner Notes: "Token" corresponds to block.

asynchronously receiving a data record write at the remote site from the primary site (column 10, lines 34-45, Shomler); and

storing the received data record write (column 10, lines 43-58, Yanai).

Regarding Claim 7, the combination of Yanai in view of Shomler, disclose a method for asynchronously remotely coping database content changes occurring at a primary site at a remote site, the method comprising:

asynchronously receiving a log record write at the remote site (column 4, lines 10-17, Shomler), each respective log record received at the remote site having an associated sequential identification and a corresponding data record write, each data record write containing modifications to a page of the database and each log record write containing information relating to modifications to the page of the database for a corresponding data record write (column 32, lines 34-58 and column 33, lines 7-10, Yanai);

storing the received log record write at the remote site (column 10, lines 43-58, Yanai);

sending an acknowledgement from the remote site to the primary site when the received log record write is complete (column 10, lines 1-8, Shomler);

asynchronously receiving a data record write at the remote site from the primary site (column 10, lines 34-45, Shomler); and

storing the received data record write (column 10, lines 43-58, Yanai).

Regarding Claim 10, the combination of Yanai in view of Shomler, disclose a storage system for asynchronously remotely copying content changes stored in the storage system, the system comprising:

a primary site having a storage system separately storing log records and data records (Fig.12, item 214, Yanai);

a remote site having a storage system separately storing log records and a data records (Fig.12, item 246, Yanai),

the primary site associating a sequential identification with each respective log record write and each corresponding data record write occurring at the primary site (column 32, lines 34-58 and column 33, lines 7-10, Yanai) and asynchronously remotely copying each respective log record write from the primary site to the remote site (column 4, lines 10-17, Shomler), each data record write containing modifications to a page of the database and each log record write containing information relating to modifications to the page of the database for a corresponding data record write (column 32, lines 34-58 and column 33, lines 7-10, Yanai), the remote site sending to the primary site an acknowledgement corresponding to a log record write that has been completed at the remote site (column 10, lines 1-8, Shomler), and the primary site asynchronously remotely copying to the remote site each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement (column 10, lines 34-45, Shomler).

Regarding Claim 11, the combination of Yanai in view of Shomler,

disclose the system wherein the sequential identification is a monotonically

increasing identification number (column 11, lines 38-46, Shomler).

Regarding Claim 12, the combination of Yanai in view of Shomler,

disclose the system wherein the sequential identification is a monotonically

increasing time-stamp identification (column 7, lines 43-60, Shomler).

Regarding Claim 13, the combination of Yanai in view of Shomler,

disclose the system wherein a log record write is asynchronously remotely

copied from the primary site to the remote site before a data record write is

asynchronously remotely copied from the primary site to the remote site (column

10, lines 43-67, Yanai).

Regarding Claim 14, the combination of Yanai in view of Shomler,

disclose the method wherein each log record write is a log block (column 9, lines

26-32, Shomler) and each data record write is a data block write (column 9, lines

18-20, Shomler).

Regarding Claim 15, the combination of Yanai in view of Shomler,

disclose a primary site of a distributed storage system, the system comprising:

a storage system separately storing log records and data records (Fig.12, item 214, Yanai), each data record write containing modifications to a page of the database and each log record write containing information relating to modifications to the page of the database for a corresponding data record write (column 32, lines 34-58 and column 33, lines 7-10, Yanai); and

a controller (Fig.1, item 16, Yanai) associating a sequential identification with each respective log record write and each corresponding data record write occurring at the primary site (column 32, lines 34-58 and column 33, lines 7-10, Yanai) and asynchronously remotely copying each respective log record write from the primary site to a remote site (column 4, lines 10-17, Shomler), the controller receiving an acknowledgement corresponding to a log record write that has been completed at the remote site and (column 9, lines 33-39, Shomler), in response, asynchronously remotely copying to the remote site each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement (column 10, lines 34-45, Shomler).

Regarding Claim 16, the combination of Yanai in view of Shomler, disclose the system wherein the sequential identification is a monotonically increasing identification number (column 11, lines 38-46, Shomler).

Regarding Claim 17, the combination of Yanai in view of Shomler,

disclose the system wherein the sequential identification is a monotonically

increasing time-stamp identification (column 7, lines 43-60, Shomler).

Regarding Claim 18, the combination of Yanai in view of Shomler,

disclose the system wherein a log record write is asynchronously remotely

copied from the primary site to the remote site before a data record write is

asynchronously remotely copied from the primary site to the remote site (column

10, lines 43-67, Yanai).

Regarding Claim 19, the combination of Yanai in view of Shomler,

disclose the method wherein each log record write is a log block (column 9, lines

26-32, Shomler) and each data record write is a data block write (column 9, lines

18-20, Shomler).

Regarding Claim 20, the combination of Yanai in view of Shomler,

disclose a remote site of a distributed storage system, the system comprising:

a storage system separately storing log records and data records (Fig.12,

item 246, Yanai), each data record write containing modifications to a page of the

database and each log record write containing information relating to

modifications to the page of the database for a corresponding data record write

(column 32, lines 34-58 and column 33, lines 7-10, Yanai),

a controller (Fig.1, item 44, Yanai) asynchronously receiving a log record write from a primary site (column 4, lines 10-17, Shomler), each respective log record received at the remote site having an associated sequential identification and a corresponding data record write (column 32, lines 34-58 and column 33, lines 7-10, Yanai), storing the received log record write in the storage system (column 10, lines 43-58, Yanai) and sending an acknowledgement from the remote site to the primary site when the received log record write is complete (column 10, lines 1-8, Shomler).

Regarding Claim 21, the combination of Yanai in view of Shomler, disclose the remote site wherein the controller further asynchronously receives a data record write from the primary site (column 10, lines 34-45, Shomler), each received data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the received acknowledgement (column 10, lines 34-45, Shomler), and stores the received data record write (column 10, lines 43-58, Yanai).

Regarding Claim 22, the combination of Yanai in view of Shomler, disclose the remote site wherein the sequential identification is a monotonically increasing identification number (column 11, lines 38-46, Shomler).

Regarding Claim 23, the combination of Yanai in view of Shomler,

disclose the remote site wherein the sequential identification is a monotonically

increasing time-stamp identification (column 7, lines 43-60, Shomler).

Regarding Claim 24, the combination of Yanai in view of Shomler,

disclose the remote site wherein a log record write is asynchronously remotely

copied from the primary site to the remote site before a data record write is

asynchronously remotely copied from the primary site to the remote site (column

10, lines 43-67, Yanai).

Regarding Claim 26, the combination of Yanai in view of Shomler,

disclose the remote site wherein each log record write is a log block (column 9,

lines 26-32, Shomler) and each data record write is a data block write (column 9,

lines 18-20, Shomler).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

9.   **Claims 1-24 and 26 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Yanai (US Patent No. 6,502,205) filed November 10, 2000, in

view of Shomler (US Patent No. 5,623,599) filed July 29, 1994, and further in view

of "Applicant Admitted Prior Art", paragraphs [0004-0006]; referred to hereinafter

as AAPA.

Regarding Claim 1, Yanai discloses a method for asynchronously

remotely copying database content changes from a primary site to a remote site,

the method comprising:

associating a sequential identification with each respective log record write

and each corresponding data record write received at the primary site, each data

record write containing modifications to a page of the database and each log

record write containing information relating to modifications to the page of the

database for a corresponding data record write ([0006], AAPA). However, Yanai

is silent with respect to asynchronously remotely copying each respective log

record write from the primary site to the remote site; receiving an

acknowledgement at the primary site, the acknowledgement corresponding to a

log record write that has been completed at the remote site; and asynchronously

remotely copying each data record write having a sequential identification that is

prior to or equal to the sequential identification of the log record write

corresponding to the received acknowledgement. On the other hand, Shomler

discloses asynchronously remotely copying each respective log record write from

the primary site to the remote site (column 4, lines 10-17, Shomler); receiving an

acknowledgement at the primary site, the acknowledgement corresponding to a

log record write that has been completed at the remote site (column 9, lines 33-

39, Shomler); and asynchronously remotely copying each data record write

having a sequential identification that is prior to or equal to the sequential

identification of the log record write corresponding to the received

acknowledgement (column 10, lines 34-45, Shomler). Yanai and Shomler are

analogous art because they are from the same field of endeavor of maintaining a

copy of data stored at a remote location from the primary data storage device. It

would have been obvious to one of ordinary skill in the art at the time of the

invention to incorporate Shomler's teachings into the Yanai system. A skilled

artisan would have been motivated to combine as suggested by Shomler at

column 3, lines 9-14, in order to secure transactions at a remote site without

interrupting the flow of other transactions in the system. Therefore, such a

system should be simple to implement, efficient and non-disruptive to existing

asynchronous copy systems.

Regarding Claims 2 and 8, the combination of Yanai in view of Shomler,

and further in view of AAPA, disclose the method wherein the sequential

identification is a monotonically increasing identification number (column 11, lines

38-46, Shomler).

Regarding Claims 3 and 9, the combination of Yanai in view of Shomler,

and further in view of AAPA, disclose the method wherein the sequential

identification is a monotonically increasing time-stamp identification (column 7, lines 43-60, Shomler).

Regarding Claim 4, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the method wherein a log record write is asynchronously remotely copied from the primary site to the remote site before a data record write is asynchronously remotely copied from the primary site to the remote site (column 10, lines 43-67, Yanai).

Regarding Claim 5, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the method wherein each log record write is a log block (column 9, lines 26-32, Shomler)[3] and each data record write is a data block write (column 9, lines 18-20, Shomler)[4].

Regarding Claim 6, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the method further comprising:

asynchronously receiving a log record write at the remote site (column 4, lines 10-17, Shomler);

storing the received log record write at the remote site (column 10, lines 43-58, Yanai);

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[3] Examiner Notes: A token is a primitive block of structured text, which therefore corresponds with the log block.
[4] Examiner Notes: "Token" corresponds to block.

sending an acknowledgement from the remote site to the primary site when the received log record write is complete (column 10, lines 1-8, Shomler);

asynchronously receiving a data record write at the remote site from the primary site (column 10, lines 34-45, Shomler); and

storing the received data record write (column 10, lines 43-58, Yanai).

Regarding Claim 7, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose a method for asynchronously remotely coping database content changes occurring at a primary site at a remote site, the method comprising:

asynchronously receiving a log record write at the remote site (column 4, lines 10-17, Shomler), each respective log record received at the remote site having an associated sequential identification and a corresponding data record write, each data record write containing modifications to a page of the database and each log record write containing information relating to modifications to the page of the database for a corresponding data record write ([0006], AAPA);

storing the received log record write at the remote site (column 10, lines 43-58, Yanai);

sending an acknowledgement from the remote site to the primary site when the received log record write is complete (column 10, lines 1-8, Shomler);

asynchronously receiving a data record write at the remote site from the primary site (column 10, lines 34-45, Shomler); and

storing the received data record write (column 10, lines 43-58, Yanai).

Regarding Claim 10, the combination of Yanai in view of Shomler, and

further in view of AAPA, disclose a storage system for asynchronously remotely

copying content changes stored in the storage system, the system comprising:

a primary site having a storage system separately storing log records and

data records (Fig.12, item 214, Yanai);

a remote site having a storage system separately storing log records and

a data records (Fig.12, item 246, Yanai),

the primary site associating a sequential identification with each respective

log record write and each corresponding data record write occurring at the

primary site (column 32, lines 34-58 and column 33, lines 7-10, Yanai) and

asynchronously remotely copying each respective log record write from the

primary site to the remote site (column 4, lines 10-17, Shomler), each data record

write containing modifications to a page of the database and each log record

write containing information relating to modifications to the page of the database

for a corresponding data record write ([0006], AAPA), the remote site sending to

the primary site an acknowledgement corresponding to a log record write that

has been completed at the remote site (column 10, lines 1-8, Shomler), and the

primary site asynchronously remotely copying to the remote site each data

record write having a sequential identification that is prior to or equal to the

sequential identification of the log record write corresponding to the received

acknowledgement (column 10, lines 34-45, Shomler).

Regarding Claim 11, the combination of Yanai in view of Shomler, and

further in view of AAPA, disclose the system wherein the sequential identification

is a monotonically increasing identification number (column 11, lines 38-46,

Shomler).

Regarding Claim 12, the combination of Yanai in view of Shomler, and

further in view of AAPA, disclose the system wherein the sequential identification

is a monotonically increasing time-stamp identification (column 7, lines 43-60,

Shomler).

Regarding Claim 13, the combination of Yanai in view of Shomler, and

further in view of AAPA, disclose the system wherein a log record write is

asynchronously remotely copied from the primary site to the remote site before a

data record write is asynchronously remotely copied from the primary site to the

remote site (column 10, lines 43-67, Yanai).

Regarding Claim 14, the combination of Yanai in view of Shomler, and

further in view of AAPA, disclose the method wherein each log record write is a

log block (column 9, lines 26-32, Shomler) and each data record write is a data

block write (column 9, lines 18-20, Shomler).

Regarding Claim 15, the combination of Yanai in view of Shomler, and

further in view of AAPA, disclose a primary site of a distributed storage system,

the system comprising:

a storage system separately storing log records and data records (Fig.12,

item 214, Yanai), each data record write containing modifications to a page of the

database and each log record write containing information relating to

modifications to the page of the database for a corresponding data record write

([0006], AAPA); and

a controller (Fig.1, item 16, Yanai) associating a sequential identification

with each respective log record write and each corresponding data record write

occurring at the primary site (column 32, lines 34-58 and column 33, lines 7-10,

Yanai) and asynchronously remotely copying each respective log record write

from the primary site to a remote site (column 4, lines 10-17, Shomler), the

controller receiving an acknowledgement corresponding to a log record write that

has been completed at the remote site and (column 9, lines 33-39, Shomler), in

response, asynchronously remotely copying to the remote site each data record

write having a sequential identification that is prior to or equal to the sequential

identification of the log record write corresponding to the received

acknowledgement (column 10, lines 34-45, Shomler).

Regarding Claim 16, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the system wherein the sequential identification is a monotonically increasing identification number (column 11, lines 38-46, Shomler).

Regarding Claim 17, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the system wherein the sequential identification is a monotonically increasing time-stamp identification (column 7, lines 43-60, Shomler).

Regarding Claim 18, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the system wherein a log record write is asynchronously remotely copied from the primary site to the remote site before a data record write is asynchronously remotely copied from the primary site to the remote site (column 10, lines 43-67, Yanai).

Regarding Claim 19, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the method wherein each log record write is a log block (column 9, lines 26-32, Shomler) and each data record write is a data block write (column 9, lines 18-20, Shomler).

Regarding Claim 20, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose a remote site of a distributed storage system, the system comprising:

a storage system separately storing log records and data records (Fig.12, item 246, Yanai), each data record write containing modifications to a page of the database and each log record write containing information relating to modifications to the page of the database for a corresponding data record write ([0006], AAPA),

a controller (Fig.1, item 44, Yanai) asynchronously receiving a log record write from a primary site (column 4, lines 10-17, Shomler), each respective log record received at the remote site having an associated sequential identification and a corresponding data record write (column 32, lines 34-58 and column 33, lines 7-10, Yanai), storing the received log record write in the storage system (column 10, lines 43-58, Yanai) and sending an acknowledgement from the remote site to the primary site when the received log record write is complete (column 10, lines 1-8, Shomler).

Regarding Claim 21, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the remote site wherein the controller further asynchronously receives a data record write from the primary site (column 10, lines 34-45, Shomler), each received data record write having a sequential identification that is prior to or equal to the sequential identification of the log

record write corresponding to the received acknowledgement (column 10, lines 34-45, Shomler), and stores the received data record write (column 10, lines 43-58, Yanai).

Regarding Claim 22, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the remote site wherein the sequential identification is a monotonically increasing identification number (column 11, lines 38-46, Shomler).

Regarding Claim 23, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the remote site wherein the sequential identification is a monotonically increasing time-stamp identification (column 7, lines 43-60, Shomler).

Regarding Claim 24, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the remote site wherein a log record write is asynchronously remotely copied from the primary site to the remote site before a data record write is asynchronously remotely copied from the primary site to the remote site (column 10, lines 43-67, Yanai).

Regarding Claim 26, the combination of Yanai in view of Shomler, and further in view of AAPA, disclose the remote site wherein each log record write is

a log block (column 9, lines 26-32, Shomler) and each data record write is a data

block write (column 9, lines 18-20, Shomler).

Response to Arguments

In regards to the claim objection above, the changing of the numbering of claim

26 to claim 25 is not permitted. Examiner turns applicants attention to 37 CFR 1.126;

wherein the original numbering of the claims must be preserved throughout the

prosecution. When claims are canceled the remaining claims must not be renumbered.

When claims are added, they must be numbered by the applicant consecutively

beginning with the number next following the highest numbered claim previously

presented (whether entered or not). When the application is ready for allowance, the

examiner, if necessary, will renumber the claims consecutively in the order in which they

appear or in such order as may have been requested by applicant. In a single claim

case, the claim is not numbered. Form paragraph 6.17 may be used to notify applicant.

Applicant must label claim 25 as cancelled.

Applicant argues, "Shomler discloses "receiving an acknowledgement at the

primary site for when all of the data up to the point of the marker in the pending write

queue has been secured, therefore, Shomler does not disclose, receiving an

acknowledgement at the primary site, such that the claimed acknowledgement

corresponds to a log record write that has been completed at the remote site".

Examiner respectfully disagrees. As stated in the action above and as agreed upon by the applicant, Shomler does disclose, "receiving an acknowledgement at the primary site". Also, as stated in the action above, Shomler discloses at column 9, lines 33-39; wherein an acknowledgement message is sent to the primary site when "all data up to the point of the marker in the pending write queue has been secured, either in the control info log or on the secondary copy DASD". This citation demonstrates all data being secured up to a designated marker, including the log record write data. However, the claim language does not prohibit the acknowledgement of extra data, merely at the least the corresponding log record write that has been completed at the remote site. Therefore, Shomler does disclose the acknowledgment corresponding to the log record write. This argument is also in regards to claims 7,10,15,and 20.

Applicant argues that because Shomler does not disclose "receiving an acknowledgement at the primary site, such that the claimed acknowledgement corresponds to a log record write that has been completed at the remote site", then Shomler cannot disclose asynchronously remotely copying each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the claimed received acknowledgement".

Examiner respectfully disagrees. As stated in the argument above, Shomler does disclose "receiving an acknowledgement at the primary site, such that the claimed acknowledgement corresponds to a log record write that has been completed at the remote site" at column 9, lines 33-39. Therefore, as stated in the action above, Shomler

discloses at column 10, lines 34-45, asynchronously remotely copying each data record write having a sequential identification that is prior to or equal to the sequential identification of the log record write corresponding to the claimed received acknowledgement.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
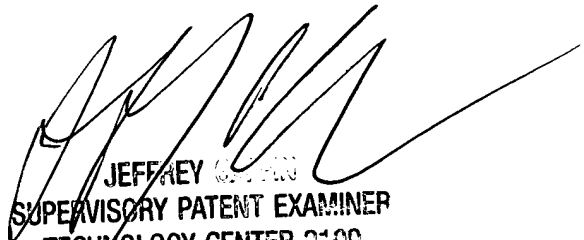
Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chelcie Daye whose telephone number is 571-272-3891. The examiner can normally be reached on M-F, 7:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chelcie Daye
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September 25, 2006

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